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Mineral Industry Surveys

For information, contact:
John F. Papp, Chromium Commodity Specialist
U.S. Geological Survey
989 National Center
Reston, VA 20192
Telephone: (703) 648-4963, Fax: (703) 648-7757
E-mail: jpapp@usgs.gov

Joseph M. Krisanda (Data)
Telephone: (703) 648-7987
Fax: (703) 648-7975
E-mail: jkrisand@usgs.gov

Internet: http://minerals.usgs.gov/minerals

CHROMIUM IN OCTOBER 2005

On the basis of gross weight, consumption of chromium ferroalloys and metal in October 2005 increased slightly compared with revised consumption in September 2005, according to the U.S. Geological Survey.

Included in this Mineral Industry Surveys are U.S. salient chromium statistics, U.S. Government stockpile inventory of chromium materials in October 2005, consumption by end use and consumer stocks of chromium ferroalloys and metal at the end of October 2005, and U.S. foreign trade data for selected chromium-containing materials in September 2005.

Update

The Defense National Stockpile Center (DNSC) announced that 6,577 metric tons (t) of ferrochromium comprising 4,990 t of high-carbon ferrochromium and 1,588 t of low-carbon ferrochromium was sold in November at a value of $5.7 million or $0.39 per pound gross weight (Defense National Stockpile Center, 2005).

Reference Cited

Defense National Stockpile Center, 2005, Corrected stockpile announces ferrochromium sales for November 2005: Defense National Stockpile Center, News Release DNSC-06-2697-A, December 5, 1 p.

TABLE 1
U.S. SALIENT CHROMIUM STATISTICS[1]

(Metric tons, gross weight)

	2004	2005					
	January-December	July	August	September	Third quarter	October	January-October[2]
Production:							
Stainless steel production[3]	2,400,000	137,000	167,000	180,000	484,000	174,000	1,880,000 [4]
Components of U.S. supply:							
Stainless steel scrap receipts	987,000	53,500	56,100	61,300	171,000	68,900	606,000
Stainless steel scrap consumption	1,410,000	81,100	85,000	87,000	253,000	94,000	873,000
Imports for consumption:							
Chromite ore	153,000	24,300	17,000	20,900	62,200	NA	124,000 [5]
Ferrochromium:							
More than 4% carbon	398,000	29,000	31,100	12,700	72,700	NA	299,000 [5]
More than 3% carbon but not more than 4% carbon	30	--	--	--	--	NA	-- [5]
More than 0.5%, but not more than 3% carbon	5,720	--	--	20	20	NA	3,530 [5]
Not more than 0.5% carbon	31,400	2,250	3,210	2,340	7,800	NA	32,000 [5]
Ferrochromium silicon	30,600	2,310	3,880	--	6,190	NA	26,800 [5]
Total ferroalloy imports	466,000	33,500	38,200	15,000	86,700	NA	361,000 [5]
Chromium metal[6]	9,630	945	1,010	581	2,530	NA	8,640 [5]
Stainless steel	811,000	60,200	63,400	57,600	181,000	NA	595,000 [5]
Stainless steel scrap	146,000	8,310	5,360	5,900	19,600	NA	87,000 [5]
Distribution of U.S. supply:							
Consumption, industry, chromium ferroalloys and metal	454,000	35,300	35,900	34,200 [r]	105,000	34,900	348,000
Exports:							
Chromite ore	43,100	1,670	6,060	7,760	15,500	NA	40,000 [5]
Chromium ferroalloys:							
High-carbon ferrochromium	6,580	23,500	343	369	24,200	NA	29,700 [5]
Low-carbon ferrochromium	1,410	1,220	231	207	1,660	NA	3,880 [5]
Ferrochromium silicon	1,150	48	10	--	58	NA	115 [5]
Total ferroalloy exports	9,140	24,800	584	577	26,000	NA	33,700 [5]
Chromium metal	931	51	130	115	296	NA	741 [5]
Stainless steel	323,000	27,700	28,200	27,200	83,100	NA	286,000 [5]
Stainless steel scrap	478,000	40,300	44,700	52,600	138,000	NA	434,000 [5]
Stocks at end of period:							
Consumer, industry, chromium ferroalloys and metal	XX	12,000	13,000	12,600	XX	12,800	XX
Government stockpile:							
Chromium ferroalloys	XX	508,000	510,000	503,000	XX	498,000	XX
Chromium metal	XX	6,190	6,190	6,210	XX	6,190	XX

[r]Revised. NA Not available. XX Not applicable. -- Zero.

[1]Data are rounded to no more than three significant digits; may not add to totals shown.

[2]May include revised data.

[3]Data on stainless steel production reported by American Iron and Steel Institute; monthly, quarterly, and year-to-date production of stainless and heat-resisting raw steel.

[4]Includes revised data that is not broken out by specific month.

[5]Includes January through September data; October data not available.

[6]Includes waste and scrap and other.

TABLE 2
U.S. REPORTED CONSUMPTION AND STOCKS
OF CHROMIUM PRODUCTS IN 2005[1, 2]

(Metric tons, gross weight unless otherwise noted)

	September	October	January-October[3]
Consumption by end use:			
Alloy uses:			
Iron alloys:			
Steel:			
Carbon steel	333	317	3,620
High-strength low-alloy steel	643	631	6,230
Stainless and heat-resisting steel	29,600 r	30,200	300,000
Full alloy steel	1,420	1,600	16,000
Electrical steel	W	W	W
Tool steel	405	422	4,420
Unspecified steel	W	W	W
Cast irons	W	W	W
Superalloys	822	830	8,350
Other alloys[4]	42	44	583
Total	34,200 r	34,900	348,000
Total, chromium content	20,100 r	20,300	203,000
Consumption by material:			
Low-carbon ferrochromium	1,840 r	1,750	19,000
High-carbon ferrochromium	28,500 r	29,400	293,000
Ferrochromium silicon	3,160 r	3,170	30,100
Chromium metal	471	486	4,470
Chromite ore	W	W	W
Chromium-aluminum alloy	27	28	290
Other chromium materials	W	W	W
Total	34,200 r	34,900	348,000
Total, chromium content	20,100 r	20,300	203,000
Consumer stocks:			
Low-carbon ferrochromium	1,950 r	1,970	XX
High-carbon ferrochromium	8,980 r	9,300	XX
Ferrochromium silicon	1,500	1,310	XX
Chromium metal	140	153	XX
Chromite ore	W	W	XX
Chromium-aluminum alloy	34	37	XX
Other chromium materials	W	W	XX
Total	12,600	12,800	XX
Total, chromium content	7,460 r	7,550	XX

rRevised. W Withheld to avoid disclosing company proprietary data; included in "Total." XX Not applicable.

[1]Data are rounded to no more than three significant digits; may not add to totals shown.

[2]Includes estimates.

[3]May include revised data.

[4]Includes welding and alloy hard-facing rods and materials; wear- and corrosion-resistant alloys; and aluminum, copper, magnetic, nickel, and other alloys.

TABLE 3
U.S. GOVERNMENT STOCKPILE INVENTORY
OF CHROMIUM MATERIALS[1, 2]

(Metric tons)

Period	Chromium ferroalloys		Chromium metal
	High-carbon ferro-chromium	Low-carbon ferro-chromium	
2004:			
October	404,000	192,000	6,670
November	398,000	191,000	6,670
December	398,000	191,000	6,670
2005:			
January	386,000	190,000	6,190
February	378,000	188,000	6,190
March	368,000	187,000	6,190
April	359,000	187,000	6,190
May	359,000	187,000	6,190
June	331,000	182,000	6,190
July	328,000	180,000	6,190
August	324,000	187,000 [3]	6,190
September	327,000 [3]	176,000	6,210 [3]
October	323,000	175,000	6,190

[1]Data are rounded to no more than three significant digits.

[2]These Government stocks are reported by the Defense National Stockpile Center in Inventory of Stockpile Materials R-1, which reports uncommitted inventory. Uncommitted inventory is that inventory for which there is no sales contract. Committed inventory is that inventory for which there is a sales contract, however, the material has not yet been shipped. For chromium materials, the R-1 report includes chromium materials that (1) meet specifications and are held in excess of goal and (2) do not meet specifications and are held in excess of goal. The R-1 report excludes chromium materials that are committed and awaiting shipment.

[3]The increase resulted from the reclassification of physical inventory from committed to uncommitted. It did not result from the addition of chromium materials to the stockpile.

Source: Defense National Stockpile Center.

TABLE 4

U.S. EXPORTS OF CHROMITE ORE, CHROMIUM FERROALLOYS, AND METAL[1]

Period	Chromite ore		Chromium ferroalloys[2]			Chromium metal[3]	
	Gross weight (metric tons)	Value (thousands)	Gross weight (metric tons)	Chromium content (metric tons)	Value (thousands)	Gross weight (metric tons)	Value (thousands)
2004:							
September	2,750	$1,590	706	401	$876	53	$1,290
October	823	270	565	347	799	58	1,190
November	507	197	616	398	843	46	1,020
December	771	231	639	388	897	51	657
January-December	43,100	10,400	9,140	5,320	12,000	931	17,600
2005:							
January	2,550	618	427	257	610	103	1,070
February	1,540	404	2,150	1,330	2,910	35	796
March	7,910	1,310	3,050	1,850	4,070	66	983
April	6,930	1,820	686	419	913	85	1,580
May	5,040	923	653	402	804	64	1,190
June	516	190	776	486	1,010	91	1,520
July	1,670	697	24,800	16,600	23,800	51	781
August	6,060	1,420	584	356	789	130	1,560
September	7,760	1,320	577	356	680	115	1,940
January-September	40,000	8,700	33,700	22,000	35,600	741	11,400

[1]Data are rounded to no more than three significant digits; may not add to totals shown.

[2]Includes low-, medium-, and high-carbon ferrochromium and ferrochromium silicon.

[3]Includes chromium metal waste and scrap and unwrought powders.

Source: U.S. Census Bureau.

TABLE 5

U.S. IMPORTS FOR CONSUMPTION OF CHROMITE ORE, FERROCHROMIUM, AND CHROMIUM METAL[1]

(Metric tons)

	2004	2005		
	January-December	August	September	January-September[2]
Chromite ore:				
More than 40% but less than 46% chromic oxide:				
Gross weight	1,690	16,700	12,200	29,600
Chromic oxide content	761	7,680	5,590	13,600
46% or more chromic oxide:				
Gross weight	151,000	320	8,690	94,700
Chromic oxide content	71,600	161	4,070	44,400
Total, all grades:				
Gross weight	153,000	17,000	20,900	124,000
Chromic oxide content	72,400	7,840	9,670	58,000
Ferrochromium:				
Low-carbon:[3]				
Not more than 0.5%:				
Gross weight	31,400	3,210	2,340	32,000
Chromium content	21,100	2,180	1,630	22,000
More than 0.5% but not more than 3%:				
Gross weight	5,720	--	20	3,530
Chromium content	3,830	--	14	2,300
Total, low-carbon:				
Gross weight	37,100	3,210	2,360	35,600
Chromium content	24,900	2,180	1,640	24,300
Medium-carbon:[4]				
Gross weight	30	--	--	--
Chromium content	16	--	--	--
High-carbon:[5]				
Gross weight	398,000	31,100	12,700	299,000
Chromium content	223,000	19,600	6,650	175,000
Total, all grades:				
Gross weight	435,000	34,300	15,000	335,000
Chromium content	248,000	21,800	8,290	199,000
Chromium metal:				
Unwrought powders	1,350	140	68	756
Waste and scrap	74	--	3	17
Other than waste and scrap and unwrought powders	8,200	865	510	7,870
Total, all grades	9,630	1,010	581	8,640

-- Zero.

[1]Data are rounded to no more than three significant digits; may not add to totals shown.

[2]May include revised data.

[3]Ferrochromium containing not more than 3% carbon.

[4]Ferrochromium containing more than 3% carbon but not more than 4% carbon.

[5]Ferrrochromium containing more than 4% carbon.

TABLE 6

U.S. IMPORTS FOR CONSUMPTION OF FERROCHROMIUM IN 2005, BY GRADE AND BY COUNTRY[1]

Grade and country	September			January-September[2]		
	Gross weight (metric tons)	Chromium content (metric tons)	Value[3] (thousands)	Gross weight (metric tons)	Chromium content (metric tons)	Value[3] (thousands)
High-carbon ferrochromium:[4]						
Australia	--	--	--	13	9	$11
China	--	--	--	13	8	11
Kazakhstan	--	--	--	80,400	55,700	83,200
Russia	2,590	1,730	$1,880	30,300	20,000	25,800
South Africa	9,900	4,820	5,430	144,000	72,700	91,600
Sweden	160	107	184	160	107	184
Zimbabwe	--	--	--	43,700	26,000	35,300
Total	12,700	6,650	7,500	299,000	175,000	236,000
Low-carbon ferrochromium:[5]						
More than 0.5% but not more than 3% carbon:						
India	--	--	--	20	13	17
Kazakhstan	20	14	28	870	601	1,370
Russia	--	--	--	1,830	1,240	2,030
South Africa	--	--	--	810	446	905
Total	20	14	28	3,530	2,300	4,330
Not more than 0.5% carbon:						
China	67	47	154	91	64	207
France	--	--	--	4	3	8
Germany	525	369	1,090	3,950	2,770	7,690
Japan	100	70	275	1,910	1,340	5,290
Kazakhstan	--	--	--	2,770	1,890	4,230
Russia	1,650	1,140	2,250	22,800	15,700	33,200
South Africa	--	--	--	501	268	402
Turkey	--	--	--	4	2	8
Total	2,340	1,630	3,770	32,000	22,000	51,000
All grades:						
Australia	--	--	--	13	9	11
China	67	47	154	104	72	218
France	--	--	--	4	3	8
Germany	525	369	1,090	3,950	2,770	7,690
India	--	--	--	20	13	17
Japan	100	70	275	1,910	1,340	5,290
Kazakhstan	20	14	28	84,100	58,200	88,800
Russia	4,250	2,860	4,130	54,900	36,900	60,900
South Africa	9,900	4,820	5,430	146,000	73,400	92,900
Sweden	160	107	184	160	107	184
Turkey	--	--	--	4	2	8
Zimbabwe	--	--	--	43,700	26,000	35,300
Total	15,000	8,290	11,300	335,000	199,000	291,000

-- Zero.

[1]Data are rounded to no more than three significant digits; may not add to totals shown.

[2]May include revised data.

[3]Customs import value generally represents a value in the foreign country and therefore excludes U.S. import duties, freight, insurance, and other charges incurred in bringing the merchandise into the United States.

[4]Ferrochromium containing more than 4% carbon.

[5]Ferrochromium containing not more than 3% carbon.

Source: U.S. Census Bureau.

TABLE 7

U.S. IMPORTS FOR CONSUMPTION OF CHROMIUM METAL IN 2005, BY GRADE AND BY COUNTRY[1]

Grade and country	September		January-September[2]	
	Gross weight (metric tons)	Value[3] (thousands)	Gross weight (metric tons)	Value[3] (thousands)
Unwrought powders:				
Brazil	(4)	$2	(4)	$2
China	28	305	234	1,940
France	7	9	13	86
Germany	--	--	13	147
Japan	12	552	236	6,370
Korea, Republic of	--	--	1	22
Malaysia	--	--	1	6
Russia	20	117	200	1,110
Spain	--	--	57	248
Sweden	--	--	(4)	3
United Kingdom	(4)	71	2	419
Total	68	1,060	756	10,400
Waste and scrap:				
Germany	1	24	6	94
Japan	2	12	11	140
Singapore	--	--	1	5
Total	3	36	17	239
Other than waste and scrap and unwrought powders:				
Austria	--	--	2	17
Canada	1	7	1	7
China	203	1,090	2,040	10,200
France	145	1,130	1,850	14,800
Germany	--	--	31	262
India	--	--	1	5
Japan	--	--	32	1,070
Russia	3	132	2,540	23,100
United Kingdom	158	1,060	1,380	8,870
Total	510	3,410	7,870	58,300
All grades:				
Austria	--	--	2	17
Brazil	(4)	2	(4)	2
Canada	1	7	1	7
China	231	1,390	2,270	12,200
France	152	1,140	1,870	14,800
Germany	1	24	50	503
India	--	--	1	5
Japan	14	563	279	7,590
Korea, Republic of	--	--	1	22
Malaysia	--	--	1	6
Russia	23	249	2,740	24,200
Singapore	--	--	1	5
Spain	--	--	57	248
Sweden	--	--	(4)	3
United Kingdom	158	1,130	1,380	9,290
Total	581	4,500	8,640	68,900

-- Zero.

[1]Data are rounded to no more than three significant digits; may not add to totals shown.

[2]May include revised data.

[3]Customs import value generally represents a value in the foreign country and therefore excludes U.S. import duties, freight, insurance, and other charges incurred in bringing the merchandise into the United States.

[4]Less than ½ unit.

Source: U.S. Census Bureau.

TABLE 8
U.S. TRADE OF STAINLESS STEEL, BY PRODUCT, IN 2005[1]

Stainless steel product	September		January-September	
	Gross weight (metric tons)	Value[2] (thousands)	Gross weight (metric tons)	Value[2] (thousands)
Exports:				
Ingot	618	$2,910	6,220	$32,100
Flat-rolled (width > 600 mm)	11,700	31,500	130,000	356,000
Flat-rolled (width < 600 mm)	8,180	26,100	91,000	324,000
Bars and rods in irregular coils	727	2,200	4,780	14,300
Other bars and rods	2,170	13,400	20,800	118,000
Wire	482	3,770	4,290	33,300
Tubes, pipes, hollow profiles	3,320	18,600	29,600	164,000
Total	27,200	98,400	286,000	1,040,000
Stainless steel scrap	52,600	61,400	434,000	490,000
Grand total	79,800	160,000	720,000	1,530,000
Imports:				
Ingot	8,070	23,900	116,000	324,000
Flat-rolled (width > 600 mm)	26,200	65,700	227,000	608,000
Flat-rolled (width < 600 mm)	3,640	13,700	33,500	132,000
Bars and rods in irregular coils	1,980	6,490	30,800	88,700
Other bars and rods	6,750	26,700	79,700	309,000
Wire	2,820	12,100	30,300	132,000
Tubes, pipes, hollow profiles	8,180	45,300	77,400	430,000
Total	57,600	194,000	595,000	2,030,000
Stainless steel scrap	5,900	6,100	87,000	99,800
Grand total	63,500	200,000	682,000	2,120,000

[1]Data are rounded to no more than three significant digits; may not add to totals shown.

[2]Export value is free alongside ship (f.a.s.). Import value is Customs import value, which generally represents a value in the foreign country and therefore excludes U.S. import duties, freight, insurance, and other charges incurred in bringing the merchandise into the United States.

Source: U.S. Census Bureau.